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FEBRUARY 26 AND 27, 1908.

REPORT OF THE SECRETARY.

The third annual meeting of the Southern Society for Philosophy and Psychology was held at the George Washington University, Washington, D. C., in affiliation with the Department of Superintendence of the National Education Association of the United States. President Roosevelt received the members of the Department of Superintendence and of the visiting societies at the White House on Wednesday afternoon, February 26, at 2:30 o'clock. The two sessions of the Southern Society were held in University Hall on February 26 and 27, at which the papers by the members mentioned below were read before the Society.

At the business meeting the officers for 1908 were elected as follows: *President*, Professor J. MacBride Sterrett, George Washington University; *Vice-President*, Professor Albert Lefevre, University of Virginia; *Secretary-Treasurer*, Professor Edward Franklin Buchner, University of Alabama. Elections to vacancies on the *Council* constituted the elective membership of that body as follows: to serve one year, Professor A. Caswell Ellis, University of Texas, and Professor Edgar James Swift, Washington University; to serve two years, Dr. William T. Harris, Washington, D. C., and President D. B. Purinton, West Virginia University; to serve three years, Professor J. Mark Baldwin, Johns Hopkins University, and Mr. Reuben Post Halleck, Male High School, Louisville, Ky.

On nomination by the Council, the following were elected to membership in the Society: Dr. Frank Bigelow, 1265 Massachusetts Ave., Washington, D. C.; Dr. N. Trigant Burrow, Johns Hopkins

University; Professor Edward I. Devitt, Georgetown University; Professor Shepherd Ivory Franz, George Washington University; Professor Robert H. Gault, Washington College (Md.); Professor David Spence Hill, Peabody Normal College; Mr. Frederick Hornstein, Johns Hopkins University; Dr. E. E. Rall, University of Texas; Dr. Edward E. Richardson, 406 Seventh St., S. W., Washington, D. C.; Professor William Carl Ruediger, George Washington University; Dr. Frank Sewall, 1618 Riggs Place, Washington, D. C.; Professor Stephenson Smith, Hampden-Sidney College; Dr. Thom A. Williams, Washington, D. C.; Professor T. J. Woofter, University of Georgia.

The report of the Treasurer, presented to and approved by the Council, showed a balance on hand of \$62.54.

ABSTRACTS OF PAPERS.

The Waning of Consciousness under Chloroform. ELMER E. JONES.

No experiments upon the waning of consciousness under anesthetics have been made for the reason that patients who submit themselves to the operating table are usually in no psychological condition to make introspections.

In obtaining the following results the subject was chloroformed twice for the special purpose of making introspections. Special arrangements were made to observe the waning of the various senses, and also the deeper processes such as imagery, memory, reasoning, etc.

Senses disappeared in the following order: hearing, touch, kinesthetic sense, and vision. After all senses were damped down it was still possible to image, to remember, and to carry on reasoning processes. Ideas the most deepseated are the last to disappear and included such concepts as home, God, heaven, childhood, etc. These ideas appear to disappear spatially — that is, they appear to grow smaller and smaller, farther and farther apart until they are infinitely separated and infinitely small. At this point consciousness is nihil.

The Pictorial Representation of Distance. ROBERT M. OGDEN.

(This paper appears in full in this issue of the PSYCHOLOGICAL BULLETIN.)

An Experimental Study of the Efficiency and the Development of Memory in Children. Psychological Laboratory of the University of Illinois. Communicated by J. W. BAIRD.

The investigation aimed to determine (1) What is the relative efficiency of the various types of memory (or imagery), and (2) What, if

any, progressive changes occur in the dominant type of imagery peculiar to a given individual during his passage through the schools and the university (or, Do the prevailing methods of instruction and acquisition or other causes tend to develop any particular type of imagery more than any other type?). In addition to finding at least a tentative answer to these two queries we discovered that several interesting and unexpected by-products of the experimentation came to light during the progress of the investigation.

The method consisted essentially in presenting various sorts of material under varying conditions of presentation and of distraction, with a view to determining not only the efficiency of recall in each individual, but also the method of recall employed in each case. It should be added that recourse was also had to introspection and to observation of motor reactions—all of which gave a clue to the nature and variety of imagery present during recall. A series of nonsense syllables was presented at the beginning of the sitting, the subjects being permitted to employ whatever mode of learning and recall they chose; and to rule out the influence of novelty and habituation this same procedure was repeated at the close of the sitting. The average amount recalled in these two cases was taken as an index of the individual's memorial efficiency. After the initial series, other material—nonsense syllables composed with various purposes in view, other meaningless symbols, spatial relations, etc.—was presented; and in the successive presentations the various memorial factors were inhibited or emphasized by the introduction of motor distractions and other devices. Certain of these series were such as to be more readily recalled by individuals of one mental type, certain of them by others; hence a comparison of the relative success attained by a given individual in the various series furnished a basis for the identification of the type to which he belonged.

Finally we read a story which had been composed with a view to the direct appeal to various sorts of imagery. The interval which elapsed between presentation and recall varied in the various cases from a few seconds to hours and days. The experiments were carried through with approximately 100 individuals in each of thirteen grades of the school system. The results may be summarized as follows:

1. The memorial type changes, during the thirteen grades, from a strongly visual type in the fourth grade of the public school, through the motor type about the sixth grade, to nearly a balanced type about the eighth grade, and back again to a dominantly visual type at the university age. There is however a marked difference between the

earlier and the later visual types. The former is mechanical, perceptive; the latter is relational, apperceptive. The former remembers meaningless characters; the latter retains syllables, etc., but not meaningless symbols.

2. The efficiency varies with the memorial type. The most efficient memories are found where the motor imagery predominates.

3. The image fades most slowly at about the sixth grade, most rapidly in the third and fourth grades and in the university classes.

4. The conclusion of Ebbinghaus — that more is forgotten in the first few minutes after learning than during the next succeeding month — was not supported by our experiments. Paradoxically enough, it frequently happened that less of the nonsense syllables could be recalled immediately after presentation than could be recalled twenty-four hours later. (Cf. the phenomenon of retrogressive amnesia.) This delayed crest of the memorial curve was also characteristic of recall of the meaningful material. For example, with pupils of the sixth grade the curve does not reach its maximum until twenty-four hours after the presentation (of the story); in the university classes a similar shifting of the maximal point also occurs, but decline begins before the lapse of twenty-four hours.

A Telepathic Experiment. (By title.) HAYWOOD J. PEARCE.
Universal Imperatives. J. F. MESSENGER.

There are two kinds of universal imperatives, (1) those of special application such as the commandments of the decalog, (2) those of general application such as Kant's categorical imperative. Those of special application are to be followed in the majority of cases but not in all. They guide aright just as instinct guides aright in the great majority of cases, but there are times when an animal meets destruction by following the instinct of self preservation. Conscience is a kind of higher instinct which prompts to action just as other instincts do, but it is entirely unspecialized and indefinite, and needs reason to aid in its specialization. It is the function of consciousness to guide and sometimes overrule instinct. It does this by judging each case upon its own merits instead of following blindly an established principle or custom.

A universal imperative is nothing more than an exhortation to use good judgment. It attempts to secure this by laying down a universal principle. This does not provide for progressive development. The following formula would serve as a test of real judgment and would also provide for changing the will to meet changing conditions: In any particular case act so that you firmly believe that a being whose

knowledge of the situation is complete and whose judgment is infallible would approve of the action. Such a being may be thought of as God or a hypothetical being may answer the purpose.

A Comparison of Spinoza's 'Ethics' and Spencer's 'First Principles.' EDWARD H. GRIFFIN.

One having in mind the differing antecedents and prepossessions of Spinoza and Herbert Spencer would hardly suppose that any relation of consequence could be established between them. The resemblances and differences are, however, of no little interest and importance. As there is no allusion to the author of the *Ethics* in Mr. Spencer's *Autobiography*, or in any of his writings, the supposition of influence exerted by the earlier thinker upon the later is excluded.

The criterion of truth recognized by both thinkers is the same—the inconceivableness of the opposite. Many statements can be found in the *First Principles* which reiterate the well-known saying, "He who has a true idea knows that he has a true idea, and cannot doubt the truth of the thing perceived."

An absolute, self-existent whole or ground of being, as a metaphysical belief, which has no warrant in the senses, or in any association of sense data, — in this assumption the two systems agree.

This principle 'omnis determinatio est negatio' is employed by Spencer to justify his conclusion that 'the power which the universe manifests to us is utterly inscrutable.' The criticism in the *First Principles* of the category of personality as applied to God is only a rendering into modern language of the objections urged by Spinoza.

The negative and abstract conception of Infinite Substance, which seems to be set forth in the *Ethics*, and which is the accepted doctrine of the *First Principles*, is not, however, the real meaning of Spinoza. His whole ethical theory would be rendered futile by such a view. His 'Substance' is not the logical abstraction 'being'; it is rather the sum of things comprehended in a vast unity. The religious motive in the *Ethics* is to be recognized. It is only as we come to know God that we are set free from the illusions and tyrannies of desire and fear; if God is unknowable, this escape from bondage is impossible. At this point we find an antithesis instead of an agreement.

Spinoza's reply to the question why we know only two of the infinite number of attributes, acknowledging that an *a priori* deduction is impossible, is in agreement with Spencer's account of the differentiation of experience into *object* and *subject*.

In both systems an unbridged chasm is left between the infinite and Unconditioned Reality and the finite world of limit and change.

The parallelism between the physical and the psychical, as described in the *Ethics*, is reproduced, in the main, in "the antithetical conceptions of Spirit and Matter, to be regarded as but a sign of the Unknown Reality which underlies both."

As Spinoza does not succeed in preserving the equipoise between the corporeal world and the world of thought, being led unconsciously to give precedence, now to the one set of modes and now to the other — in order to provide for sense perception and for self-consciousness — so Spencer, while protesting the contrary, inclines the balance decisively on the physical side, since all the forces in the ascending scale — physical, biological, psychological, social — are reducible ultimately to matter and motion.

There are several points of resemblance of a psychological character.

The nature of the human mind is conceived similarly in the two systems, the conception being that of Hume, 'a heap or collection of different perceptions.'

The continuity of consciousness is not adequately explained, being left unaccounted for in the *Ethics*, and being referred, in the *First Principles*, to the body and its functions.

Spinoza and Spencer agree in looking upon free will as an illusion, and in explaining the mistake as due to our ignorance of the causes whereby actions are determined.

Each system offers a reconciliation between the self-regarding and the altruistic impulses.

The construction of a doctrine of Ethics is the main concern of both thinkers. One solves the moral problem after the manner of Socrates and the Stoics, his theory being the apotheosis of knowledge. The other derives conscience and moral feeling out of animal impulses, presenting the impressive idea of a law of conduct attained as the last result of a study of the process of evolution. Both give Ethics a cosmic basis.

Although Spinoza has often been stigmatized as an atheist, and his system directly negatives the cardinal affirmations of theism, the *Ethics* has had a powerful attraction for many noble and devout souls and contains many essentially religious sentiments and ideas. The *First Principles* is lacking in ideality, and gives little scope for the religious imagination.

The comparison, outlined above, may be carried down to minute details of phraseology, revealing many curious correspondences of language as well as of thought.

Inspiration from the Point of View of Psychology. GEORGE L.
RAYMOND.

When men use the term inspiration, they refer to a supposed inner, as distinguished from an outer, influence exerted upon the mind irrespective of that coming through eyes or ears. The fact of such influence and its effects on expression can be proved by hypnotism. The method of exerting hypnotic influence is through suggestion, and no two, when hypnotized by the same person, express themselves in the same way. The way depends upon the previous experience, information and associations constituting the contents of the subconscious mind of the one hypnotized. According to the analogy of hypnotism inspiration, therefore, does not interfere with the expression of personality and originality, but promotes both. In hypnotism, though under control in one sense, a man, by giving expression to his unconscious nature, is revealing that which is peculiar to himself. Prophets and poets exert as great individual as inspirational influence. This individual influence, being determined by that which has been stored in their minds, may be erroneous, yet the general trend of their influence truthful. The results of inspiration in different ages and countries have the same source and character as those of conscience. They are conditioned by that which is stored in the mind influenced. As the promptings of conscience or the dictations of those who are conscientious cannot be rightly accepted, either by the agent of the influence or the subject of it, without an exercise of intelligence and of rationality, so with that which comes from inspiration. Indeed, considered merely as modes of expressions, all movements and words are taken from external nature, and are not reproductions of thoughts but suggestions of them. This fact is shown by the use which we make of gestures, words and combined words as in certain quotations made from Shakespeare. In conclusion, it was pointed out that anything like inspiration which affects first the subconscious nature for the purpose of stimulating the conscious nature to thought and action is very different from information which affects first the conscious nature. Inspiration, as in art and religion, merely gives thought a push or inclination in a certain direction. Information, as in science or history, registers and reports exactly the position which thought has reached. The criteria of the two forms of truth therefore differ essentially. To get the truth out of the passages quoted from Shakespeare—and the same would be true of passages from the Bible—we must be very careful not to interpret them literally but suggestively. To get the truth out of any statements of science or of history, we must be careful to do the opposite. They must be interpreted literally.

The Teleological Judgment. EDWARD E. RICHARDSON.

This paper was prompted by the impression that I first received in reading the *Critique of the Teleological Judgment*. I have read and re-read this critique since that time, yet the first impression which I received has not only remained, but has been strengthened.

Following some preliminary remarks concerning the actual presence of judgments of purposiveness in experience, the paper proceeds to a statement of the Kantian position as concerns this principle in question. The statement is here made that the Kantian definition or position as regards purposiveness on its subjective side is practically a truism.

The paper then considers the meaning of finality as used by Kant when reference is made to objective purposiveness. The point is made in this connection that Kant used the term purposiveness in his objective reference to the term in slightly different senses in different places in this critique and that it was on account of subtle distinctions in the use of this term that Kant has unconsciously fallen into error as regards the conclusions that he finally reaches.

The limits which the preceding critiques had set could not be overstepped by Kant and consequently he was compelled to move within the limitations that he had himself previously imposed. It would appear from an examination of the *Critique of the Teleological Judgment* as if Kant was almost at times inclined to give more ontological significance to this principle of finality and yet just as he is about to do this the turn of the argument backs to the opposite position. Reference is made here to Kant's conception of nature and the influence that this has upon his doctrine concerning final causality.

The Kantian discussion concerning the incomprehensibility for us of the whole preceding the parts but that the parts must precede the whole is considered at some length. The point made here is that Kant's contention in this particular connection is a double-edged sword that cuts one way as well as the other, and the Kantian argument is accordingly vitiated.

The statement made in the critique under consideration, that the investigation of nature *can* and *must* be conducted according to the principle of purposiveness receives some attention in the paper. Some additional reasons, and the implications involved therein, whereby Kant took the position that he has in this critique are considered in the concluding part of the paper, as well as is also the final agnostic position of Kant as regards the purposiveness of nature.

The paper closes with a few general remarks concerning the philo-

sophical value of the Kantian critical philosophy and the writer believes that, while epoch-making for philosophy, it can be shaken in part at least and that the true standpoint is to be found in getting *beyond* Kant, not however by going *around* Kant but by going *through* Kant.

The Aesthetic Experience: Its Nature and Function in Epistemology. W. D. FURRY.

The increased aesthetic discussion of the past century rather set the problem of aesthetics than solved it. As in the days of Fechner so now aesthetic theories are either 'from above or from beneath.' With the recognition of two distinct types of interest, the theoretical and the practical, have come the attempts to subordinate the aesthetic experience with the one or the other. That the aesthetic experience has played some part in the more serious business of life is generally recognized, so that the time is gone when the aesthetic can be disposed of either by making it a sort of appendix to text-book of psychology or a mere footnote to a system of philosophy.

The primary and fundamental aesthetic inquiry is as to whether the aesthetic experience can be subordinated to either of the two recognized types of experience or whether it represents the rise and development of a type of interest which exists for its own sake rather than for some ulterior end. The conclusion of the paper was that to reduce the aesthetic experience to either of the two types of interest is to reduce the aesthetic to the limitations and embarrassments from which it seeks to disengage itself and by the very process of this disengagement is fitted to unify and complete the otherwise fragmentary and mediate character of the theoretical and the practical life alike.

It was shown in the paper that the aesthetic and the epistemological have arisen together; that each has passed through a series of modes of development, all of which may be reconstructed with a tolerable degree of accuracy; that the character of the epistemological reflects always the character of the aesthetic at the corresponding period; hence the conclusion was reached that the burden of the epistemological became always the opportunity of the aesthetic. As Kant long ago pointed out neither the theoretical nor the practical reason can complete itself. Thought is always dualistic and as Bradley says can never harmonize its own content and will always involve a struggle between reality as it is and as we are striving to make it. Both types of experience require a fuller and more complete experience in which thought and conduct alike are unified and completed. The setting up of such an experience without breaking with experience represents the epistemological problem at any stage of mental development. The several

attempts to solve the problem thus stated end in mysticism, meaning by mysticism a return to a more primitive experience in which the later dualisms of thought and conduct have not yet come. But the setting up of such further experience, the discounting of future experience by schematically treating present meanings as meaning more, in which consciousness finds its static relations vital and fruitful and its dynamic, moving experiences truthful and meaningful, is found to be the function of the æsthetic.

The Present State of Logical Theory: President's Address by J. MARK BALDWIN.

Devoted to an exposition of the present tendencies away from formal logic, namely: Apriorism, Immanentism, Instrumentalism.

1. The reaction in the direction of Apriorism in Germany, as seen in Husserl and Meinong, was criticized from the psychological and instrumental points of view. The artificiality of reserving the 'logical' or 'discursive' type of operations from the principles of continuity and utility which apply to the genesis of cognitions of other types, was pointed out.

2. The Immanentism of Cornelius, Rehmke, and others was in turn criticized, the principal objection to it being that it makes 'experience' a closed and 'immanent' process and so finds no trans-subjective factor. On such a view — together with that of 'pure experience' — the factor of 'foreign control' is overlooked, and a form of individual experience postulated which makes 'common' and 'universal' knowledge impossible.

3. Instrumentalism was advocated based on genetic considerations. A theory was sketched — developed in the speaker's work *Thought and Things*, vol. ii — which issues in two positions. First, the essential commonness or 'community' of all logical process was pointed out, privacy and singularity of judgment being considered as derived and special rather than original modes, and second, the intent of further 'proposal' or 'hypothesis' — an imaginative intent — was found to attach to all truth and logical implication, even the most abstract and universal 'laws of thought.'¹

4. The general conclusion was reached, however, that instrumentalism and rationalism are both incomplete since they are complimentary aspects of the whole logical movement. As instrumental, knowledge is a means not only to practice, to action, but also to further knowledge, to a systematic body of reality. Further, the dualism of

¹ See the author's exposition of his view under the contrast between 'knowledge' and 'imagination' in the *PSYCHOL. REVIEW*, May, 1908.

controls issues in two modes of the real—that of things or truths and that of ends or worths. The *assumption* of worth or the ideal requires the *presupposition* or *presumption* of fact or the actual. The issue is found in the synthesis of the two in the type of *immediateness* seen in æsthetic *Einfühlung* or contemplation which is available as an epistemological no less than an æsthetic category. In it the instrumental or imaginative meaning and the 'actualizing' or truth-finding meaning come to unity in an immediate 'realizing' which *in type fulfils them both*.

Discussion: The Present State of Logical Theory.

CHRISTINE LADD FRANKLIN.—Origin and Functions of Symbolic Logic.—Symbolic Logic sprang ready-made from the brain of Boole in 1854. Its problem is the formalization of formal logic. Formal logic, in order to keep clearly in mind the fact that, in reasoning, the meaning of terms is without significance, symbolizes them by means of non-significant letters of the alphabet. This indispensable aid to abstraction was devised by Aristotle. The world had to wait long before the next step was taken—Leibnitz, Lambert, Ploucquet, foresaw the need for it, but Boole first actually solved the problem of laying down the rules for the unthinking (and hence the unerring) treatment of these additional logical elements: (1) The simple relations between terms and combinations of terms (those in *is* and in *it follows that*) ; (2) the three functions of terms (aggregation, determination and negation—*and*, *or* and *not*) ; (3) the two special terms (the only terms which are *not* without significance—everything and nothing, or the existent and the non-existent—symbolized as ω and o).

In other words, the logic of Aristotle was the logic of *all* and *some*—Boole added the logic of *and*, and *or*, of *everything* and *nothing*, and of the generalized relation of '*sufficient condition*' (*is, follows*). The use of symbolism is an invaluable but not an indispensable aid in this conquest of new fields.

But Boole followed, mistakenly, too closely, the models of elementary mathematics (the relation of equality, even of equality to zero, has nothing to do with pure logic). His actual methods have been entirely superseded by those of Schroeder and of Peirce and his school.

The function of symbolic logic at the present time is :

(a) The rigid examination of the fundamental principles (axioms if universal—postulates if particular and therefore affirmative of existence) on which any largely deductive science is based—and notably those on which logic itself is based. This involves the absolute guarding against the slipping-in, in the course of the reasoning, of any

intuitions which have not been admitted explicitly. The elementary geometry of Euclid, supposed to be the very model of scientific rigidity, is found by such means as these to be riddled with inadvertencies.

(b) The mechanical handling of any number of concurrent premises in any number of terms — the elimination from them (with absolutely no other loss of truth) of any term or terms in regard to which information is not desired, and the expression of all the truth that remains in the form of a complete predicate to any desired subject.

(c) The working over of mathematics especially with the aid of this immense tool towards accurate thinking — the mathematization of mathematics. In the hands of Peano and his school in Italy, Bertrand Russell in England, and Couturat in France, most important results are promised in this field.

MORITZ GEIGER (of the University of Munich, by invitation of the Council).—The Status of Logic in Germany.—The conditions of logic in Germany to-day are quite different from the conditions of logic in America. In the last thirty years pure formal logic has occupied only little interest among German philosophers. The preponderance of psychology has been decisive in the treatment of logical problems. The so-called formal logic was very often influenced by psychology, or the psychological discussion of logical concepts pushed away the mere logical problems (Sigwart, Erdmann, Wundt). The reaction against the so-called ‘psychologism’ came from different sides: The Neo-Kantians, chiefly interested in the problems of the categories, emphasized the transcendental method (Cohen, Natorp, Windelband). Meinong, from another side, built up his new science, ‘Gegenstandstheorie,’ not as a part of logic, but as a theory of the objects as objects, which does not speak of any particular objects, neither of those of natural science, nor of mathematics nor logic.

The standard work of the anti-psychological logic is Husserl’s *Logische Untersuchungen*, which, in the first volume, gathers the arguments against every kind of psychologism, and, in the second volume, seeks the way to a new theory of truth and evidence. Finally, the mathematicians (Frege) reorganize the pure logic in the form of symbolic, algebraic logic.

To all these different movements is common that they maintain that the laws of logic are ‘a priori’ and necessary, that these laws are not the laws of a thinking mind, but laws of objects; that logic is as independent of psychology as is, for instance, mathematics.

Instrumental, psychological, genetic logic is (for Germany), therefore, not a postulate, but the reigning theory, against which new movements try a renaissance of pure logic.

THE PICTORIAL REPRESENTATION OF DISTANCE.¹

BY PROFESSOR ROBERT MORRIS OGDEN,
University of Tennessee.

The most important factors contributing to the formation of our judgments of visual space may be conveniently summed up under four heads :

1. Body movements which condition parallax.
2. Eye movements of accommodation of the lens and of convergence of the axes of the two eyes for different distances.
3. Stereoscopic vision, depending on the scheme of relative displacements with respect to a variable horopter — these displacements being in the right eye to the left and in the left eye to the right of the point fixated when the object is *nearer* than the horopter, and, conversely, in the right eye to the right and in the left eye to the left when the object is more distant than the horopter.
4. Pictorial details which may be analyzed into :
 - (a) Geometrical perspective, or the regular decrease in the size of objects as they recede.
 - (b) Aërial perspective, or the alterations in contour, color tone and brightness which, because of atmospheric effects and the limitations of clear vision, an object must undergo at different distances.
 - (c) Shadows cast by objects on themselves and on their surroundings.
 - (d) Color and brightness contrasts which hold apart objects having different shades and hues.
 - (e) The superposition of objects indicating their order of remoteness.

A cursory glance at the above groups will reveal certain important facts for our consideration. It will be at once noted that the first three groups of factors are better adapted to indicate *solidity* than *distance*, since they have significance only for objects relatively near at hand. We alter our position in order to comprehend more clearly the spatial nature of an object which is within a few feet of us. We do not do this when the object is at a distance. A mountain seen at different

¹ The following remarks were suggested largely by the treatment of the subject in Adolf Hildebrand's *Problem of Form*, forthcoming Eng. tr. by Max Meyer and R. M. Ogden; G. E. Stechert & Co.

angles is apt to present such varying aspects as to make it difficult for us to identify them. The views remain visually distinct pictures of different localities even though we may know it to be the same mountain in each. Not so, however, when the object is near us, different views are then readily referred to the same object, and thus contribute greatly to our knowledge of its true spatial nature.

At a certain distance from an object eye movements cease to play a part in our judgment of its spatial nature. As distance increases, accommodation, which is very active in adjusting for objects near at hand, becomes more and more a negligible factor. So too with convergence, the angles vary greatly for objects near by, whereas for remote objects the variation tends slowly towards parallel axes. As to the purely visual concomitants of these angular adjustments of the two eyes, the considerable disparity to be noted in the pictures on the two retinæ when the objects judged are near, becomes gradually lessened as they recede until, finally, the two pictures are identical.

We may say, then, that as objects recede they make constantly decreasing demands on us for movement. Instead, a relatively fixed and constant adjustment is requisite, and the retinal pictures, though tending towards vagueness, show no disparity.

With respect to the fourth group of factors it is quite a different matter. We have here to do with purely pictorial details operative at any distance without regard for body movement, eye movement or stereoscopic vision. But it will also be noted that while these factors, coöperating with those of the first three groups, contribute largely to our knowledge of near-by objects, they become the most important instruments for conveying to us knowledge of distance.

Applying these facts to pictorial representation we may raise the question as to the verisimilitude of this form of art in reproducing nature. But, first, let us inquire briefly as to the function of pictorial art, that is, of designs and representations on flat surfaces. I think we may say that art of this sort involves variously, and in different degrees of relationship, three prominent elements :

1. Representation, or the transference of the three-dimensional object of nature to the two-dimensional area of the picture.

2. Decoration, or the grouping of lines and areas, colored or neutral, with regard for their quality, symmetry, proportion and contrasting effects.

3. Interpretations which may be consciously read from, or unconsciously suggested by the pictorial factors.

The first of these elements demands a clear spatial impression

which, if it does not possess the complete verisimilitude of nature, is, nevertheless, sufficiently complete to make the representation intelligible and devoid of conspicuous flaws.

The second element works with representative art as a pleasing by-product and general unifying principle. It also has independent existence as applied to architecture, tectonics, etc.

The third element consists of interpretations, both physical and mental, which the above elements may suggest. To gain its peculiar ends the normal usage of representation and decoration may both at times be held up, verisimilitude and beauty of design being neglected for a relative crudity which, however, because of the parsimony of the attention process, is able thus to symbolize more completely a psychological message. The various phases of this element are much too detailed to be considered here. But needless to say the element is always involved in some degree, whether constrained by the picture or transcending it with relative freedom; whether involving conspicuous physical activity or relative quiescence.

In the present paper we have before us for our principal consideration the verisimilitude of pictorial art in the representation of distance. We shall therefore neglect the decorative and interpretative elements in the main, though both are in reality constantly playing their parts in the whole.

Unless a picture is purely decorative, or purely symbolic, or a combination of the two, the representation of space must play an important rôle in its composition. The question then arises, how can space be represented on a two-dimensional plane without the disturbing effects which a sense of unreality must necessarily bring.

The question is answered, I think, by laying stress on distance rather than on the plastic quality to give a sense of unifying space to the representation. As has already been noted, our ideas of the plastic nature of things are primarily derived from movement and a succession of perceptions. Both are excluded from pictorial representation. On the other hand our ideas of distance are most truly represented by the pictorial details at our disposal, since it is just in these terms that we view distance in nature.

But in attempting to reproduce things seen at a distance we are still involved in certain discrepancies. Among these there is our inability to render with pigments the absolute color and brightness values of nature. Although this is a real difficulty, it is not so great a one as might be supposed, for the reason that our memory for absolute values appears to be so slight that if the artist has made a judicial selection

of his dominant coloring, and a clever use of contrast to set off his colors and high lights, we fail to detect any marked discrepancy.

Another difficulty arises from the fact that, although representing things under the conditions of a distant view, the artist nevertheless brings them often much nearer to us than the optical conditions would seem to warrant. This discrepancy is frequent in art, yet it too can be made to pass unnoticed. Indeed, the difficulty arises only when the picture strongly suggests plastic solidity, in which case the observer is placed in a similar position to one who views a panoramic arrangement and is compelled to accept a false arrangement of plastic and pictorial details without being able to detect just where the falsehood lies. In order to avoid this conflict with ideas of plasticity which demand stereoscopic vision and movements which manifestly cannot be supplied, it is incumbent upon the artist to emphasize distance and keep his nearby objects well within the frame of the picture. By properly placing the objects of main interest, it is possible to emphasize a backward rather than a forward tendency in the picture, and thus lead the observer's gaze quickly into the distance where the demands of plasticity are not felt. This emphasis of the distance effect is produced principally by aerial perspective, and by the massing of objects into planes which are set off from each other by superposition and contrast quite as are the masses of hills at different distances in nature.]

This spatial effect of distance through the conception of contrasting planes is emphasized and made unusually apparent by stereoscopic pictures. The exaggerated effect which is here produced accounts at once for the compelling sense of space which we have, together with the apparent artificiality of the stereographic effects.¹ Pictorial factors plus displacement work together in this instance to give an impression of space which depends rather upon the over-emphasis of distance than upon those truly plastic factors which would be involved in viewing the same scene in nature, *i. e.*, eye movements of accommodation and convergence. For it is easy to observe that a stereoscopic picture presents a more or less definite succession of planes rather than a perception of solid objects. The reason for this is that the displacements are so much more effective between objects at different distances than they are between parts of the same object that the latter become practically negligible. In nature, on the other hand, when we see these

¹ Münsterberg has pointed out another discrepancy in comparing the sweep of the eye over the plane of the stereograph with the corresponding movement when viewing nature, which also contributes to the relative unreality of the results obtained with the aid of stereoscope or 'verant.' (*Journal of Phil.*, I., 23, pp. 617 ff.)

same objects from the same position, eye movements are constantly brought in play, and the transition from one object in space to another at a different distance cannot be simply jumped over as it is when eye movements are lacking. Hence the unreality of stereoscopic pictures and the effect obtained as if the masses of objects were merely separate flat planes set up at different distances like stage scenery.

In art these planes are contrasted by means of purely pictorial details, and no discrepancy need be felt unless the object is made to appear so near as to demand the physical accompaniments of judgments of plasticity. Such demands are avoided principally by the treatment of the vista which may be made quite natural. Aërial perspective also aids in suggesting the distance view. In case the vista is lacking, as it frequently is in interior views and portraits, the same backward tendency of the planes may still be preserved to give a clear spatial perception which is usually surcharged with psychological meaning. The significance of the distance, however, must be weakened in these views, and the tendencies toward too great a plasticity are correspondingly increased. All the skill of the artist is involved in solving such problems as these. Our interests in a picture are diversified, but the artist may suggest along what lines our thoughts shall travel. Thus it is that he distracts us from the deficiencies, and forces our attention on the superiorities of his art. The natural demands for verisimilitude are not demands for slavish imitation, but neither may the normal conditions of perception be neglected. It is a matter for the artist to determine what interests shall dominate. But he must then take care that all suggestions of unreality be avoided, or at least subdued and so rendered innocuous.

PSYCHOLOGICAL LITERATURE.

JUDD'S PSYCHOLOGY.

Psychology; General Introduction. CHARLES HUBBARD JUDD,
Professor of Psychology and Director of the Psychological Laboratory
at Yale University. New York, Scribner, 1907. Pp. 382.

This book is announced as 'volume one of a series of text-books designed to introduce the student to the methods and principles of scientific psychology.' The author lays stress upon four features: first, that his treatment is functional rather than structural; second, that it is genetic; third, that the physiological conditions of mental life have been given conspicuous emphasis; and fourth, that proper significance has been given to ideation as the 'unique and final stage of evolution' and the most striking fact in mental development.

Following the introduction are two chapters dealing with the nervous system, one tracing its evolution at large, the other describing the human nervous system in more detail. The first of these chapters will be valuable for the student, the second is less clear and likely to prove difficult. These chapters are illustrated by some twenty cuts, many of which are, however, like those elsewhere in the book, too much reduced in size to serve their purpose well. One notes here, too, an indiscriminate use, now of English, now of metric units of measurement.

The general analysis of consciousness (ch. iv.) is brief, but important because it gives the cue to the development of Judd's system. Five main types of conscious processes are distinguished, viz.: sensation factors, relations between sensations (perceptual fusions), attitudes (including feeling, interest, and attention), memory contributions, and ideational relations.

The treatment of sensation (ch. v.) is characterized by insistence upon the distinction between physical, physiological, and psychological processes. It seems to me that this distinction is rendered needlessly difficult, and that a correspondingly needless time is consumed in its clarification. A number of dubious or incorrect statements may be found in this chapter. For example, it is stated that the color-blind see violet as violet (p. 91); contrast is erroneously attributed to after-images (p. 97), and no effort is made to show the relation between

after-images and adaptation. The color circle (p. 77) is certainly inferior to the color pyramid as a representation of visual qualities. Middle c of the piano is said to have 512 double vibrations per second (p. 103) but is correctly given as 256 later (p. 114); noise is explained as due solely to complex vibrations (pp. 104-5); each member of a tonal complex is declared to retain its independent value for experience in contrast to the fusion of colors (p. 113); beats are said to be heard in addition to the two fundamental tones (p. 113); difference-tones are explained simply as beats too numerous to be separately apprehended (p. 114); tonal deafness is apparently confused with the phenomena of tonal 'gaps' and tonal 'islands' (p. 115); pain spots are 'defined as specially sensitive pressure spots' (p. 124), while the evidence for specialization of end-organs in the skin is declared not to be conclusive (p. 126). Again, the dismissal of the important group of subcutaneous sensations in a portion of one paragraph (p. 126) with the statement that 'in the normal course of life they come into experience with a great mass of skin sensations,' and that 'they never are intense except when they are abnormal' does scant justice to the contributions of sensation from the tendon and the joint; so, too, the analysis of the factors which enter into tactual space percepts (p. 142). Introspection would, on the contrary, lead one to see in these sensations an important element in tactual space and the source of many of the 'attitudes' which are so prominently featured in Judd's treatment.

Chapter vi., which discusses the functional relations between sensations (really the perception of space and time), is one of the most interesting in the volume. Judd's fundamental principle is that one must always distinguish between a sensation and its function; that the function of a sensation 'can be defined only by considering the use to which the sensation is put' or the 'relation into which the sensation enters'; that 'these relations are just as much a part of experience as the sensation qualities.' The relations between sensory qualities are termed 'fusions'; the relations of sensations to activities are termed 'attitudes.' Henceforth, these attitudes loom large, so much so that consciousness is said to be 'characterized chiefly by the attitudes of which it is made up, sensation serving merely to initiate these attitudes' (p. 135). In what sense the perception of objects can be said to be an instance of fusion while the constituent tones in a chord can be said not to fuse (p. 113) is difficult to understand. The balance of the chapter traces the organization of the more important perceptual fusions, viz.: tactual, auditory, and visual space, the unity of objects, and time. In-

cidentally, I note that the point system of writing for the blind is seemingly regarded as a recent invention (p. 141); but Braille had perfected it in 1835.

This discussion of the organization of sensory experience into functionally operative complexes would, in my opinion, be much clearer if it were prefaced by a development of the principles of retention, attention, and association, and of the nature of centrally excited sensations (memory images). Throughout the chapter, one can scarcely avoid the feeling that Judd, while seeking to avoid an explicitly structural treatment, is making extensive use of introspective analysis of the structural type. A similar comment may be applied to other sections of the book.

I find, personally, great difficulty in understanding how sensation qualities constitute only the content of experience, while a large part of conscious experience is formed merely by the forms of functional relation, contentless attitudes, etc.

Factual statements of doubtful character are that sensory impulses from the semicircular canals enter every perceptual combination (p. 171), and that a uniform sound 'will be broken up into a succession of rising and falling accents by the listener himself' (p. 177).

The peculiar interest of chapter vii. (*experience and expression*) lies in its description of attention, feeling, and emotion as functional attitudes. An attitude is not a sensation, in Judd's system, but one's reaction to the sensation; the term is to be applied 'to both the bodily reaction and the mental process' (p. 188). The immediate conditions of attitudes are found in 'the central processes which determine the motor discharges into the muscles' (p. 188). Attention, which is 'the most general attitude in mental life' is an individual attitude, not determined by external conditions, not a new factor or content or form of arrangement in experience (p. 189), but 'merely a name for various phases of selective arrangement within experience' (p. 193). It is an attitude 'of concentration upon certain factors of experience and rejection of others.'

"Feelings are unique phases of experience which depend for their character upon the congruity or incongruity of the different active tendencies of any given moment; they are attitudes, never to be confused with contents" (p. 202), and are not, as in the Lange-James theory, related to sensations of movement (p. 195). Disagreeable feeling is due to a conflict of motor tendencies; pleasurable feeling to co-operation of motor tendencies (p. 197). Here, again, the formulation can be acceptable only to one who can envisage the process by which a

conscious experience may arise, without content, merely from the existence of conflicting or non-conflicting motor tendencies.

The development of the direct forms of consciousness is concluded in an interesting chapter on instinct and habit. Here the concept of organization, implicit in the preceding discussion, is given explicit treatment, and, in Judd's hands, becomes thereafter a principle of far-reaching application. This use of organization seems to me one of the most valuable features of the book.² Organization appears primarily in 'coördinated activities of the muscles, provided for in the inherited structure of the nervous system,' *i. e.*, in instincts. Further organization appears in the formation of habits. Habits spring from two main sources, (*a*) out of instincts themselves, especially from the selection of conflicting instincts or the modification of instincts in the light of experience, (*b*) out of a condition of unorganized 'diffusion' through the selection and combination of successful elements of movement, *e. g.*, in learning to write. The question naturally arises: what determines this selection? Judd argues that the selection is not determined, as commonly asserted, by pleasantness-unpleasantness, since this is not a cause but a result of organization. But he does not indicate very clearly just what does determine the organization, save to attribute it to 'success,' 'attainment of end desired,' 'adaptation,' 'advantage,' or meeting stimulation 'in a way which is natural and compatible with the total organization of the individual.' If the concept of 'need' were more elaborately developed, it might serve a useful purpose in this discussion. In the illustration (p. 217) of conflicting instinctive tendencies, it seems to me that curiosity is a much more likely antithesis to fear than is the instinct of social contact.

With the discussion of memory and ideas (ch. ix.), including the function of memory images, we are introduced to what Judd terms the 'indirect' phases of experience and forms of arrangement. The laws of association, the nature of retention, and the possibility of memory training are treated incidentally in this connection. The most important contribution here seems to me the development of the relation of memory images to the organized forms of response. Judd shows clearly (p. 239) how memory images supplant perception as a guide of behavior, and how these memory contents 'degenerate,' if I may use the term, with use, and finally disappear entirely when habit is established. "Content is here used for a time in building up a habit and the content is dropped and the function is retained" (p. 240). Such organized habits of response are very difficult to modify or reorganize, hence the conservatism and stability of our individual attitudes toward the more familiar experiences of life.

By a similar line of argument, the author finds the 'meaning' of words (ch. x.) to consist far more in the attitude which they arouse than in the imagery which was possibly associated with them when first acquired. "The content of experience arises rather from the total phrase or sentence" (p. 267). "General ideas are in essence nothing but dispositions toward activity" (p. 268). Such a disposition usually lies "in a bodily movement which is a much reduced resultant of earlier direct attitudes" (p. 269). "Ideas are the characteristic marks of the human type of life and development" (p. 273).

Imaginations (ch. xi.) are memory images which are radically changed in process of recall. When used for practical purposes, imaginations are tested critically either by empirical methods, or, when these are inapplicable, by reference to their internal coherency. Products of constructive imagination in which the image factor has become attenuated and the relational factor all-important are termed conceptions. This close connection of imaginations with concepts has some advantages, but it seems to the reviewer to lose sight of the distinction between imagination as dealing with concrete experiences and conception as dealing with generalized experiences, or at least to confuse the student's notions of conception. Judd has done service in calling special attention to the delay in motor discharge which accompanies these higher forms of reorganization (p. 296): the simple reflex-arc concept has been too often forced to do duty as a general expression for all forms of response.

The discussion of the concept of the self (ch. xii.) is so abstruse and difficult that it is hard to see how the average student of psychology can profit from its perusal.

The earlier discussions of action are completed in chapter xiii., which deals with impulse and voluntary choice. Aside from an excellent presentation of the psychology of reaction-time, this chapter deals for the most part with the problem of determinism and free-will. While the classification of the forms of action is helpful, it is to be feared that the issue of the problem is not made very clear to the student.

Opposed to the general processes of organization, of which so much capital is made, Judd finds certain tendencies toward what he terms 'dissociation' (ch. xiv.). Under this concept are subsumed such varied phenomena as illusions, hallucinations, sleep and dreams, the effects of drugs, dual personality, hypnosis, and insanity—a collocation that appears somewhat artificial. A paragraph upon hysteria, following the lines traversed by Janet in his *Mental State of Hysteria*,

icals, might well have been added to complete this picture of dissociative tendencies.

The final chapter deals with the applications of psychology. Reference is made to art, esthetics, literature, sociology, anthropology, education, logic, ethics, and metaphysics. The particular phases of psychological study which Judd adduces as evidence of the application of psychology to the problems of teaching are the genetic studies of individual development, the nature of habit and of the process of learning, the recognition of expression as of greater importance than impression.

This volume, taken as a whole, impresses me as an exposition of the author's system of psychology which is calculated more to interest and challenge the attention of his brother psychologists than that of his students. The author's style is expository and argumentative, straightforward, but not easy and varied enough to hold the attention of immature readers. This general impression is heightened by the closely printed pages, the rather narrow margins, the complete absence of foot-notes, analytic tables of contents, chapter-end references, suggestions for supplementary reading, or questions or topics to promote discussion. Many chapters are decidedly difficult, and in some cases the order of exposition within the chapter is confusing. Very likely these seeming deficiencies become points of merit under the instruction of so skillful a lecturer as the author, but I should personally hesitate to use this text in any but the most advanced classes of mature students. Its use, as contemplated in the announcement, as a text-book 'designed to introduce the student' to psychology will demand a high grade of student and a high grade of instructor.

From the point of view of the psychologist rather than of the teacher, I find myself highly interested in the book. I suppose no psychologist is likely to find himself in complete agreement with another's system, but in the present instance he will be bound to admire the consistency with which the author has developed his system, and will find himself forced to take the defensive whenever he fails to agree with the presentation of the book.

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SOCIAL PSYCHOLOGY.

Die Anfänge der Gesellschaft. W. WUNDT. Psychologische Studien, 1907, III., 1-48.

The present article is a condensation of the material that is to form the forthcoming part of the second volume of the author's *Völkerpsychologie*. It is an outcome and a continuation of his discussion of totemism, which subject finds here a comprehensive consideration, in connection with its concomitant social phenomena.

The author is not in sympathy with the contemporary tendency, displayed also by Usener, to look upon totemism as a temporary fashion. Ethnology can not pass over lightly all the facts accumulated by competent English and American investigators, revealing a significant unanimity in the phenomena of totemism in many regions, often widely separated. It is also apparent that totemism is so closely interwoven with all phases of aboriginal social life, religious as well as cultural, that its understanding becomes necessary for a proper interpretation of all primitive social structure; above all, it should be determined concerning totemism, whether it is an outcome of certain social structures, or whether the form of organization is a result of totemistic influence. With this purpose in view the author here takes up the phases of primitive society that fall within the domain of the belief in animal ancestors and protecting spirits, and all this in unbroken connection with the external social conditions of aboriginal life.

A study of the Australian tribes, based on A. W. Howitt's work, shows a striking tendency of the tribe, or horde, to split, as a rule, into two parts, and, where a more complex division had taken place, we still see a partition based on the halving principle, so that the numbers 2, 4, 8, etc., represent the fundamental element of the Australian classificatory system. Examination demonstrates that the Iroquois of North America were subdivided, in accordance with the same halving principle, into two moieties, each one of which contained four classes and their subclasses, these divisions being designated by Morgan as phratries, gentes and subgentes. Just as among the Australians, matrimonial alliance was here confined to certain gentes. On the whole, the Iroquois show a more complex organization, which, nevertheless, appears to be merely a more extensive application of the principle of halving. Their totemistic conceptions also show a similar metamorphosis, when compared with those of the Australian tribes.

On the basis of these and also other examples the author concludes that all primitive social organization has gone through the process

of halving of the undifferentiated horde. This he accounts for by the natural mode of splitting of the original group as a result of difficulties of dwelling together, following upon numerical increase. The younger members would separate from the rest and start out in search of new hunting grounds or pastures. Following upon separation, the formerly amicable contests between the members of a group tended to take the form of more serious strife, actuated, undoubtedly, by the first requirements of a livelihood. The memory of society preserved, in a variety of ways, only one of these primitive struggles (an unmistakable sign of its fundamental importance), the contest for the possession of a wife.

The Malayan kinship system and that of primitive man generally differs essentially from that of civilized societies; our relational names cannot be found in the language of primitive man, while some of their kinship denominations are entirely out of reach of our vocabulary. The whole system of kinship-expressions among the Malayo-Polynesian races amounts only to a differentiation of the group on the basis of sex and age, coinciding with the mode of division of labor in a primitive horde, accentuated, even to the present day, by a total separation of the dwellings of the males, and by an exclusion of women from a participation in some mysteries and ceremonies. All this, however, does not exclude the existence of matrimonial regulations, which have found expression in positive normative customs, in exogamy and in marriage by capture,—this last one having degenerated into a mock-fight.

Professor Wundt rejects Morgan's explanation of the origin of exogamy by man's natural abhorrence of incest, supposedly based upon an instinctive fear of its detrimental physical and moral consequences; such an abhorrence can not be found among several South American and Malayan tribes. It seems more probable that the repulsive feeling now prevalent resulted from a long existence of exogamy, and not the reverse. MacLennan's view, accounting for the rise of exogamy and for marriage by capture by an insufficient supply of women, seems also inadequate, as the agreement at the basis of exogamy surely presupposes that each matrimonial group had enough women for the needs of the male group, as otherwise the prohibition of marriage within one class could not be explained. The author believes that the primitive amicable contest, waged within the horde, for the possession of various advantages, gave rise to the custom of marriage by capture. Originally an unregulated habit, it soon became an individual fashion, then an established custom and later on a group-habit, that could not fail to meet with religious and social sanction,—factors most decidedly contributing to the perpetuation of such customs.

All this is a recognition of a most fundamental psychological fact that in all primitive social phenomena, normative custom always forms the culmination of a long evolution, in fact, its conscious regulative principle. This is contrary to the method of rationalistic interpretation, that puts the normative influence at the head of the process. Wherever the sanction of a norm is not present, and habit forms the sole support of a phenomenon, there the latter is easily modifiable by the appearance of new motives. The means of perpetuation of the influence of exogamy is found in religious sanction; the unsanctioned capture of women soon passed into a sham, the religious marriage ceremony having originated in times very much more recent.

Only the capture of the females by contests among friendly classes would admit the consequence of the captured woman's continued adhesion to her parental group, extending this privilege to her children also. However, metronymy was not at all in indisputable predominance in primitive society; and this seems to imply the early presence of factors tending to hasten the ascendancy of patronymy and its culmination in the individual family.

It is natural that the blood forms the original relational bond within a family and to this stage belongs the belief that the blood is the means of transmission of the soul from one body to another. A modification of the ideas of kinship involved a change in soul conceptions. The author suggests that the ascendancy of patronymy might have been helped by the rise of the idea of breath as means of psychic bond. The last breath of a dying man meaning the escape of the soul from the body, it might have been inferred that the soul could pass from mouth to mouth, by the breath, and this might account for the origin of the kiss. In this light, the long struggle between metro- and patronymy, appears also as a contest between the blood-soul and the breath-psyché.

The content of primitive soul-belief being supplied by a dream-vision of the deceased ancestor, and, this becoming impossible where a recollection of an ancestor had ceased,—as was the case in regard to more distant relatives,—it became the mission of another concept to retain, within the limits of primitive imagination, the form of the ancient ancestor, the founder and heavenly protector of his progeny. The primitive man, detecting in the animals around many traits superior to his own, readily turns to the idea of soul-similarity between animal and man, and, through the belief in soul-metamorphosis after death, bridges over the chasm opened by the failure to find a content for his notions of the soul. This soul-animal, the carrier of the prim-

itive soul-idea, is then recognized as the animal ancestor of the group, and this is the early form of ancestor-worship, *i. e.*, the direct expression of the mythological embodiment of primitive social order.

Such are the phenomena known as totemism. It had found its beginning in the aboriginal ideas of the soul and, along with these, passed through a great many modifications, during a long cultural process, finally becoming so unrecognizably changed that it is almost impossible to discover the secret of its origin, in spite of some few of its still persisting traces.

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THOUGHT.

The Concreteness of Thought. GEORGE H. SABINE. Philosophical Review, 1907, XVI., 154-169.

The Material of Thought. Ibid., 285-297.

Pragmatism shows perhaps the extreme reaction of the special sciences upon philosophy, and it may be regarded as not wholly free from some of the failings which are characteristic of such reactions. In the two articles which form the subject of the following outline the author avoids the anarchistic tendencies of pragmatism and still retains a philosophic scheme which should be quite as acceptable to the special scientists as pragmatism. He starts from the common assumption that "experience is the only reality and must be the foundation of any philosophical system, . . . and experience is real, in proportion as it is concrete." The discussion then turns about the significance of the term concrete, and the thesis of the article is: that rational thought is a process of concretion, not of abstraction from concrete experience.

Immediate experience does not include the whole concrete object, it is always deficient in certain of the properties of the object and in many of its relations. Those factors which are wanting in the original experience are added in the process of rational thought, *i. e.*, by interpretation of the given facts, or explanation in terms of their relation to the other facts of experience. The concrete then, as distinguished from the abstract, will unite that which is complete in its individuality, in all its properties, with that which is complete in all its relations. Our actual experience is never wholly real, in the sense of being absolutely concrete, that can be attained only in the ideal experience, where all aspects and relations are complete.

Abstraction in thought is always a means, never an end, it is a

means of reaching the end of concrete rationality. The special sciences abstract, in that they divide up the field of experience and develop self-consistent conceptual systems, in order to further the wider, more comprehensive end, of a completely organized or rationalized experience. Both the man on the street and the man of science assume that experience is rational; in as far as it is irrational, *i. e.*, in any sense contradictory, it is unreal. It is the function of thought to eliminate the unreal. The concrete, the real in the strict sense of the term, is not the partially organized immediate experience, but that experience integrated, organized, rationalized by the process of thought.

The second article on 'The Material of Thought' is a further development of some phases of the philosophical scheme indicated in the preceding paper. The subject is approached by a keen criticism of the philosophical point of view, which either directly or indirectly makes a division of experience into form and material; the attack is directed especially at the modern form which that doctrine takes in the work of Professor Rickert. The perceptual world, the author maintains, is not an infinity of individuals, in the strict logical sense of the term individual, nor is the result of scientific thinking on that perceptual world merely a consistent system of abstract relations. This idea of a conceptual world, poles removed from the perceptual, is the result of that false division of experience into form and matter. The nearest approach to such a mass of unrelated subject-matter, for thought, the formative factor to work upon, should be found in the most primitive starting point of experience, but experience never occurs except as partially organized. Thought as the organizing factor is present in the simplest conceivable experience. Furthermore, the material of thought, or the incentive to the development of the completely organized experience is not, as Rickert maintains, an infinite variety of individual objects and the need of manipulating them for practical ends, but rather the *inconsistency* in experience between the perceptual situation, which is unsatisfactory, and the ideal situation, which is fitted to remove the unsatisfactory features.

Observation does not furnish the raw material for thought to work upon, observation would mean nothing in a perfectly unorganized experience; on the other hand, as the author states, 'observation should be conceived of as one moment, in the total function of rationalizing thought.' In its undeveloped stage experience has two deficiencies, its organization is imperfect and the facts are incomplete. Thought in the most general sense discovers its function in the supplying of these two imperfect phases. And in the very process of the development of

consistency in an incomplete experience new facts are discovered and further problems brought to view, in the general interest of the construction of a complete experience, in which both the facts are all gathered and consistency is perfect. The author concludes that any ultimate distinction between form and material of thought is a pseudo-distinction. The purely perceptual and conceptual represent but the extreme limits of two processes of abstraction, one is at the point of immediacy, the other at that of abstract relation, which has no contact with actual content; the concrete real lies between these limits and includes both, at one end an at least partially organized experience, at the other perfectly organized experience.

The above outline does not pretend to do justice to all the steps in the arguments contained in Sabine's two articles, which are in themselves very condensed and pregnant with interest and suggestion. Neither is this the place to enter upon an extended critical discussion. There are several points which are well worth further development. The feature which is so notably present in the discussion, and which is too frequently so notably absent from purely philosophical discussions, is the sympathetic appreciation of the rôle played by the special sciences in the development of the unification of knowledge.

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PERSONALITY.

New Search for the Soul. E. M. WEYER. International Journal of Ethics, 1907, XVII., 232-246.

The author recalls the two distinct modern attempts to clear up the mystery of the soul, namely, that made by Kant which ended in his continued faith that the soul exists but also in the conviction that 'its abode is in a region whither mortals cannot go'; and that made some seventy years later by the materialists, among whom were Moleschott, Büchner, *et al.*, who insisted that mind is a function of brain.

This theory was interpreted to mean that with the death of the brain its function, and consequently our consciousness, will cease.

He then goes on to assert that, though all of the experiences which depend for their existence upon the functioning of the brain were blotted out at death there is still, flowing parallel to 'the fleeting pageant of external images,' a stream of 'other mental experiences' which has 'no demonstrable dependence on the brain.' It is "the content of this second stream that he proposes to weigh over against all the relatively objective factors of mind — sensations, ideas,

and such other phenomena as are known to owe their origin to the activity of the brain." This second stream is defined as the flow of *feeling*, within which 'is all the zest of life contained'; beyond it lies nothing that of itself could make immortality desirable. The author would not deny the connection of soul and body; yet for him the limitless variety of feeling makes the mechanical explanation especially doubtful. Again, he finds no true memory of the feelings. "In recalling the past we experience feelings that rarely even remotely resemble their originals."

It is only by the gratuitous assumption that feeling has a universality of its own apart from the particular experiences of life that he reaches the conclusion that "even our opponents cannot reasonably expect the discovery of a feeling-center in the brain, since no person while retaining consciousness has ever been deprived of this universal faculty."

On this matter of the feelings in relation to the brain, the final word seems to be *ignorabimus*. "The man of science may hold the materialistic view, but the same man as a man of feeling may hold another." To explain this paradox the author sets up a dualism,— "the brain and the products of the brain belong to one sphere; the feelings to another." "The faculty of reason is a brain process; . . . the feelings . . . occupy an inner realm of consciousness." He concludes that "an advantage is thus gained by identifying the immortal part of man with the current of feeling: the soul can thus exert a guiding influence on our earthly lives." With reference to the life beyond, the feelings, in that they constitute the warp and woof of personality, are alone qualified to span the chasm to another sphere, maintaining the thread of personal identity, which, if severed, must render any form of immortality absolutely meaningless.

The conclusion is thus reached that our personality can persist without the 'artificial aid of memory, which is the frailest of our faculties and a serious obstacle in many doctrines of immortality.' Regarding this solution each individual must judge for himself, but 'the weighing should occur in the realm of feeling where each personality is a law unto itself.' Finally, 'every successful search for the soul is a personal matter; each must make the search for himself.'

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MEMORY.

Ueber Lesen und Rezitieren in ihren Beziehungen zum Gedächtnis.

STEPHEN WITASEK. Zeitsch. f. Psychol., 1907, XLIV., 161-185, 246-282.

These memory tests of the comparative effectiveness of reading and reciting were made, as is usual in such cases, with nonsense syllables. At each test the subjects were given new material. In the memory repetition the errors were corrected, but the nature of the failures was always recorded. The experiments indicate that retention is favored by first reading the series of syllables a number of times — probably about eleven are the best — before the memory repetition is begun.

Comparison of the retention resulting from the several successive readings showed that the first made the deepest impression. The additional effect of those which followed gradually diminished. The same result was also obtained from successive memory repetitions.

In reciting the syllables the improvement in retention through successive repetitions — the degree of success in the first repetition being the basis for calculating the percentage values — diminished steadily, though no marked difference between any two successive recitations was found. The rapidity of this decrease in effectiveness was generally more noticeable when the first impression was especially strong. Memory repetitions gave better results than mere reading.

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BOOKS RECEIVED FROM MARCH 5 TO APRIL 5.

Are Bees Reflex Machines? H. v. BUTTEL-REEPEN. Trans. by M. H. GEISLER. Medina, Ohio, A. I. Root Co., 1908. Pp. 48.

Die neuere Tierpsychologie. O. ZUR STRASSEN. Leipzig, Teubner, 1908. Pp. 78.

A Mind that Found Itself; An Autobiography. C. W. BEERS. New York, Longmans, 1908. Pp. x + 363.

La Psychologie inconnue. Étude expérimentale des Sciences psychiques. E. BOIRAC. Paris, Alcan, 1908. Pp. 346. 5 fr.

El Alcoholismo y sus efectos. V. DELFINO. Preface by J. SCOSERIA. Barcelona, Granada y C^a, 1907. Pp. 189. 4 reales.

Modern Classical Philosophers. Selections illustrating Modern Philosophy from Bruno to Spencer. B. RAND. Boston and New York, Houghton, Mifflin, 1908. Pp. xiv + 740.

- Identité et Réalité.* E. MEYERSON. Paris, Alcan, 1908. Pp. viii + 430. 7 fr. 50.
- Psychologie d'une Religion.* G. R. D'ALLONNES. Paris, Alcan, 1908. Pp. 289. 5 fr.
- Physionomie et Caractère.* P. HARTENBERG. Paris, Alcan, 1908. Pp. 218. 5 fr.
- The Persistent Problems of Philosophy.* M. W. CALKINS. 2 ed. revised. New York and London, Macmillans, 1908. Pp. xxiv + 575.
- Grundlinien der Psychologie.* S. WITASEK. Leipzig, Dürr'sche Buchhandlung, 1908. Pp. viii + 392.

NOTES AND NEWS.

THE annual meeting of experimental psychologists will be held at Harvard University on April 15 to 17.

THE Sixth International Congress for Psychology will be held at Geneva, August 31 to September 4, 1909. In previous congresses the large number of papers presented, their necessary condensation and hasty reading, and the great variety of topics treated, have been the ground of considerable criticism. The Committee in charge suggest in their preliminary circular that the coming Congress concentrate along three general lines: 1. The discussion of a limited number of live questions, on the basis of reports and counter-reports which shall be presented to the Congress, these reports to be printed in advance, so as to afford opportunity for the preparation of objections or suggestions by those taking part in the discussion. 2. Several sessions to be devoted to the question of psychological terminology; the Committee intends to present to the Congress a scheme of terminological equivalents for the principal languages. 3. An exhibit of apparatus, as at former congresses; it is proposed, however, to devote more time to their examination and demonstration than hitherto. The Committee asks for suggestions regarding this program, and particularly as to the choice of topics for discussion. (Th. Flournoy, *president*; P. Ladame, *vice-president*; Ed. Claparède, *general secretary*; Champel 11, Geneva, Switzerland.)

WE regret to note the death of Dr. Eduard Zeller, the veteran historian of philosophy, on March 19, at the age of ninety-four years.

